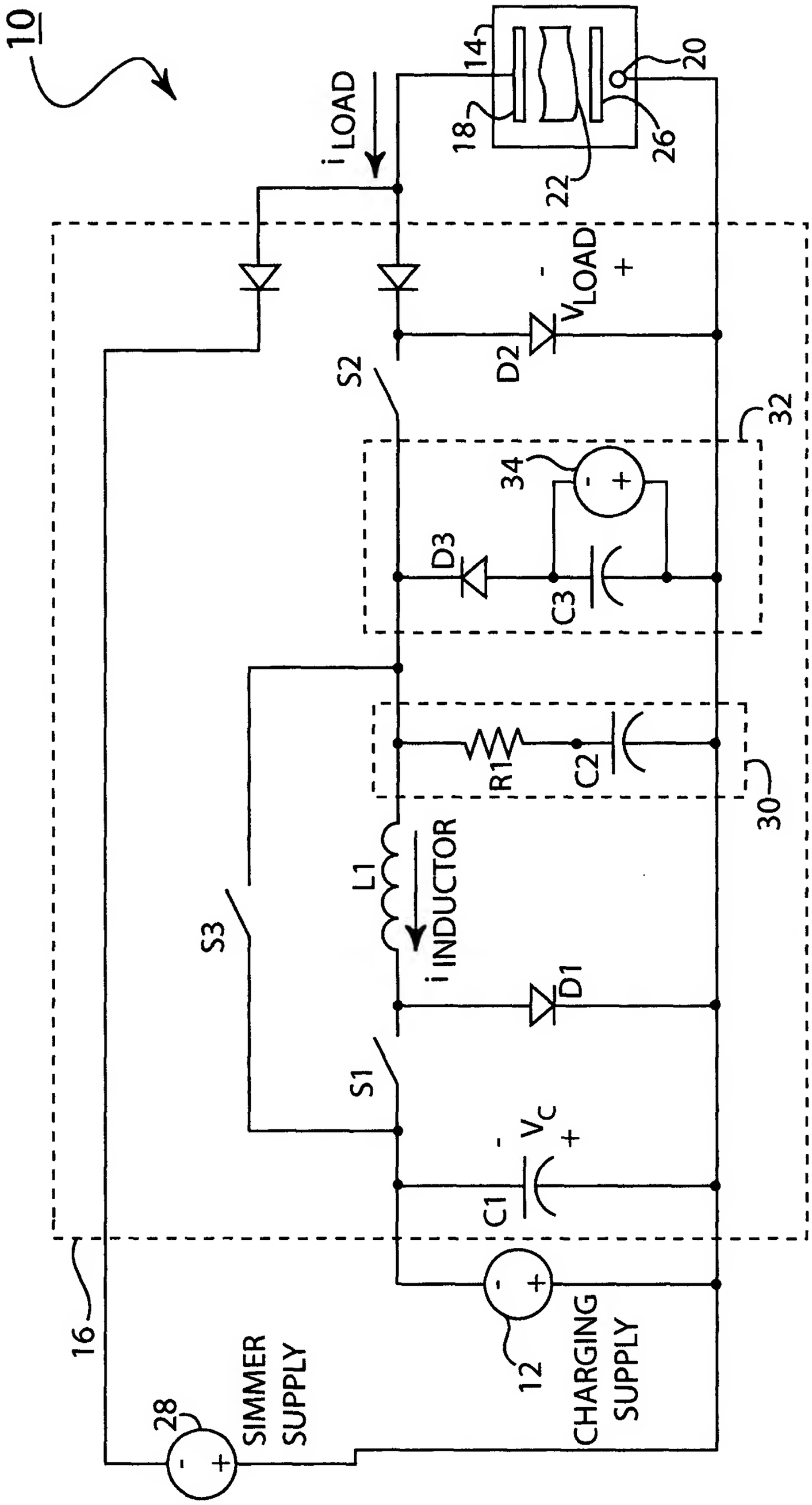
10
14
20
18
26
22
i_{LOAD}
-
V_{LOAD}
+
D2
S2
32
34
D3
C3
R1
C2
30
L1
$i_{INDUCTOR}$
S3
D1
S1
V_C
C1
16
28
SIMMER SUPPLY
12
CHARGING SUPPLY

FIGURE 1

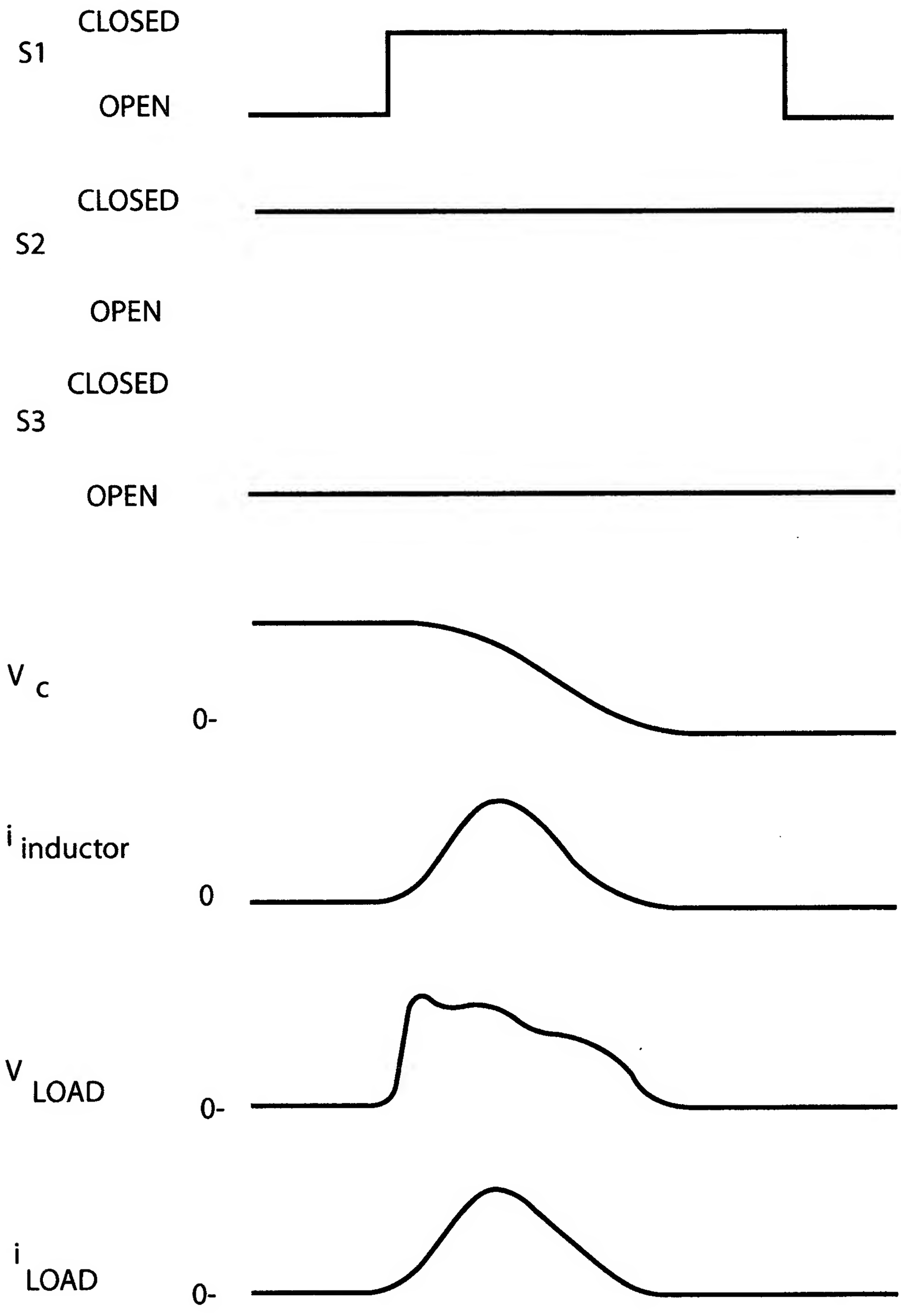
CLOSED
S1
OPEN
CLOSED
S2
OPEN
CLOSED
S3
OPEN
V c
0-
i inductor
0
V LOAD
0-
i LOAD
0-

FIGURE 2

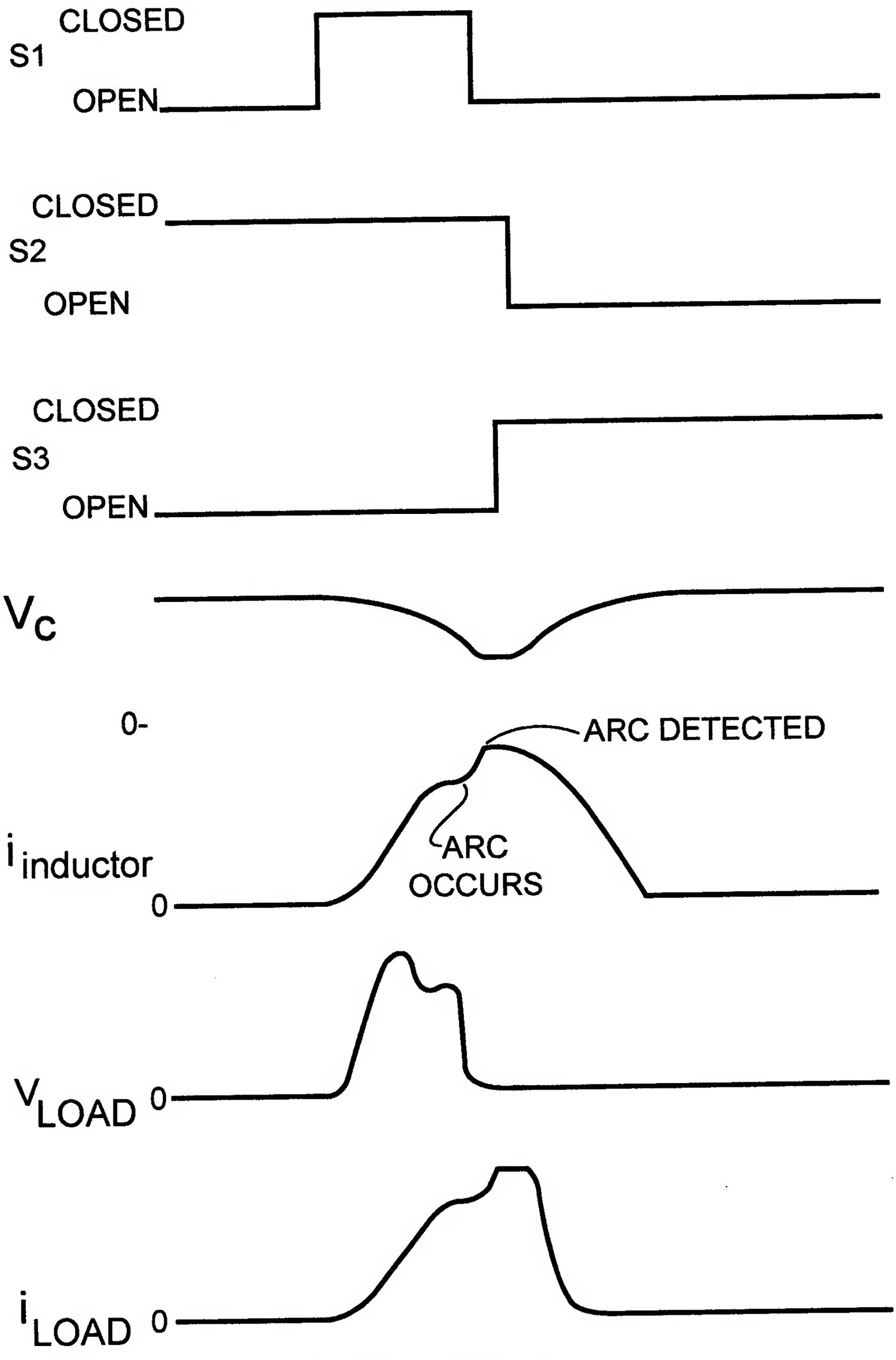
CLOSED
S1
OPEN
CLOSED
S2
OPEN
CLOSED
S3
OPEN
V_C
0-
ARC DETECTED
ARC
OCCURS
$i_{inductor}$
0
V_{LOAD} 0
i_{LOAD} 0

FIGURE 3

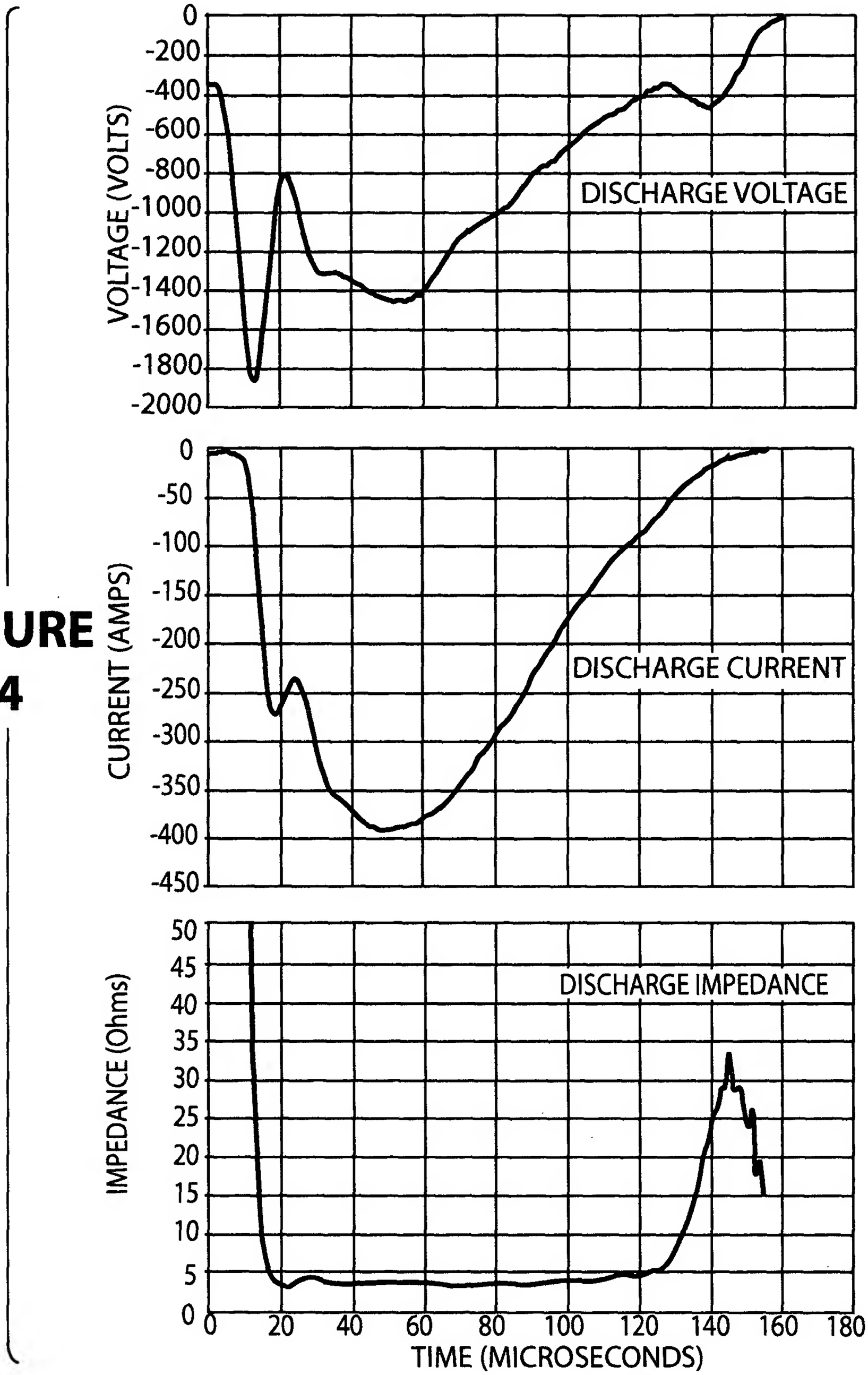
0
-200
-400
-600
-800
-1000
-1200
-1400
-1600
-1800
-2000
VOLTAGE (VOLTS)
DISCHARGE VOLTAGE
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
CURRENT (AMPS)
DISCHARGE CURRENT
50
45
40
35
30
25
20
15
10
5
0
IMPEDANCE (Ohms)
DISCHARGE IMPEDANCE
0
20
40
60
80
100
120
140
160
180
TIME (MICROSECONDS)

FIGURE 4